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EXAMINER

NGUYEN, THANH T

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/556,245
Filing Date: November 10, 2005
Appellant(s): HENDRIKS ET AL.

Gregory L. Thorne
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 8/10/09 appealing from the Office action mailed 3/10/09.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2003/0129654	Ravkin et al.	7-2003
2002/0053735	Neuhaus et al.	5-2002
2002/0039346	Abe et al.	4-2002

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6309726

Ono et al.

10-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 are rejected under 35 U.S.C. 102(b) as being anticipated by over Ravkin et al. (U.S. Patent Publication No. 2003/0129654).

Referring to figures 53-61, Ravkin et al. teaches a method of producing a plurality of bodies, each body (1310/1312/1314, die, see figures 52-55) bearing an optical structure (Example 5, para. 406-439), the optical structures being substantially equal, being associated with a respective information carrier for containing user information, and being indicative of characteristic information for providing access to the user information (para. 443-449), of the method comprising acts of:

producing a stamp (1324/1310/1314/1320, see fig. 55, paragraph# 456, 453-454) by attaching particles (1312/1314, see paragraph# 453-454) to a surface of an auxiliary body (1310/1340, see figure 55, paragraph# 453-457); and

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using the attached particles (1312/1314, (figure 52, 53, 55, see paragraph# 453-457) to imprint an imprintable material (1330), thereby producing the plurality of bodies, the each body having at least a surface portion bearing a direct imprint of the particle pattern in the stamp (figures 55, see paragraph# 456-460).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 6, 8-10, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ravkin et al. (U.S. Patent Publication No. 2003/0129654) as applied to claim 1 above in view of Ono et al. (U.S. Patent No. 6,309,726).

Yang et al. teach a formation of optical structures by producing a stamp (61/68) and using the stamp to imprint the imprintable material.

However, the reference does not teach the optical structures comprising reflecting layer, transparent layer.

Ono et al. teaches forming a substrate/carrier (2), forming reflecting layer (3) on the substrate/carrier (2), then forming transparent layer (4, figs. 9-10) on the reflecting layer (3), forming a particle having a size ranging bet 100 nm and 1 .mu.m are used as the particles (see col. 7, lines 38-52).

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Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would form a reflection layer, transparent layer, and information carrier in process of Yang et al. as taught by Ono et al. because the process would form an imprint on the information carrier so that the information can be optical read.

Claims 5, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ravkin et al. (U.S. Patent Publication No. 2003/0129654) in view of Ono et al. (U.S. Patent No. 6,309,726) as applied to claims 1-4, 6, 8-12 above, and further in view of Abe (U.S. Patent Publication No. 2002/0039346).

Yang et al. in view of Ono et al. teach a formation of an optical structure by producing a stamp (61/68) and using the stamp to imprint the imprintable material.

However, the reference does not teach imprintable material used has a first refractive index, and the other imprintable material has a second refractive index, the second refractive index being different from the first refractive index.

Abe et al. teach regarding to claims 5, 7, characterized in that the imprintable material used has a first refractive index, and the other imprintable material has a second refractive index, the second refractive index being different from the first refractive index (102/203, see paragraph# 35).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would form a reflection layer having a refractive index in process of Yang et al. as taught by Abe because the reflection layer having a different refractive index would provide the interface between the films adequately interact with light so that the information can be optical read.

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Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ravkin et al. (U.S. Patent Publication No. 2003/0129654) as applied to claim 1 above in view of Neuhaus et al. (U.S. Patent Publication No. 2002/0053735).

Yang et al. teach a formation of optical structures by producing a stamp (1(a)/1(b), see fig. 1, paragraph# 40) and using the stamp to imprint the imprintable material.

However, the reference does not teach the optical structures comprising particles of diamond.

Neuhaus et al. teaches regarding to claim 11, characterized in those particles of diamond are used as the particles (see paragraph# 148, figures 9a-9F).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would form particles of diamond in process of Yang et al. as taught by Neuhaus et al. because forming particles of diamond would provide the excellent thermal conductivity coefficient of the hard particles, also determining the optimum material for the layer only involved routine skill in the art.

(10) Response to Argument

A- Appellant contends in page 10 of the appeal brief that “While FIG. 55 does show a “[s]ystem 1320 for forming imprinted particles” (see, Ravkin, paragraph [0456]), in Ravkin, it is clear that it is the “particles” that are imprinted on as opposed to the present system wherein it is the particles that are used to imprint an imprintable material as substantially recited in claim 1.”

This is not found persuasive because Ravkin et al. clearly teaches at figs. 52-55, paragraphs 453-456, as claimed in claim 1 as follow:

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producing a stamp (1324/1310/1314/1320, see fig. 55, paragraph# 456, 453-454) by attaching particles (1314/1312, see paragraph# 453-454, figs. 55, 53-54, 52) to a surface of an auxiliary body (1310/1340, see figures 55, 52, paragraph# 453-456); and using the attached particles (1314/1312, figure 52, 53, 55, see paragraph# 453-457, also see figure 60, paragraphs 533-536, 431, 574) to imprint an imprintable material (1330), thereby producing the plurality of bodies (dotted grooves formed in 1330 under and corresponding to particle 1314 in fig. 55, and 1344 formed in the 1330 in fig. 55), the each body having at least a surface portion bearing a direct imprint of the particle pattern (1314) in the stamp (1324/1310/1314/1320, figures 55, see paragraph# 456-460).

And, there is not seen any difference of stamp having particles between Instant Invention and Ravkin et al.. The comparison of definitions of stamp having particles between Instant Invention and Ravkin et al. as follow:

Instant Invention defines stamp having particles in the Abstract and figure 1 as quoted below:

ABSTRACT

In the described method of producing a **plurality of bodies** bearing equal imprints of a stamp as optical structures, a **stamp (13, fig. 1) is initially produced, by attaching particles (14) to a surface (15) of an auxiliary body (16); then, the stamp (13) is used to produce an imprint (11) on a plurality of bodies (10).** Optical structures can be irradiated, producing on a screen a speckle pattern indicative of a key. It is substantially impossible to clone a given optical structure with current technological means. Optical structures represent physical One-Way Functions, easy to compute in the forward sense but unfeasible to reverse. Thus, they can be used to build an access/copy protection system of user information contained in an information carrier associated with the body 10. The reproducibility of the optical structures makes this method suitable for optical disks.

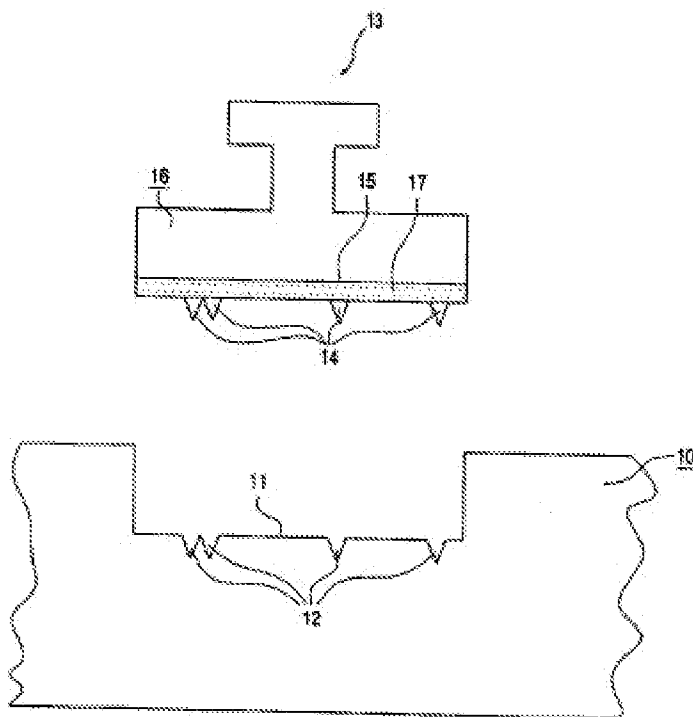


FIG. 1

Reference **Ravkin et al. defines stamp having particles** in paragraphs 453-454, 456 and figures 52-55 as quoted below:

[0453] FIG. 52 shows a die 1310 used to produce a particular code pattern. Over the die surface, the die includes at least one group 1312 of features 1314 that will form the code pattern. **Group 1312 (or plural groups) plus some surrounding area 1316 define the target particle size.** The die may have any number of feature groups 1312. Here, thirty groups of nine features each are shown on die 1310. Groups 1312 may be located in rows and columns, thus simplifying separation of imprinted particles by cutting. The die also may have noncoding features 1318, such as lines or dots, among others, which may be used as alignment marks or perforations for particle separation. Die 1310 is manufactured using known methods of micro-machining, some of which are described below in Section 5.7.2.

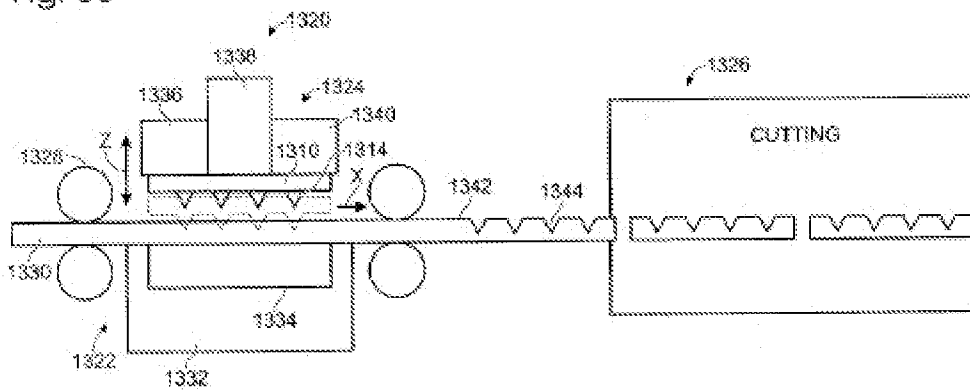
[0454] FIGS. 53 and 54 show magnified views of exemplary die features. Each **feature 1314 of group 1312 may be formed as a protruding pyramid** (see FIG. 53). Alternatively, or in addition, **each feature 1314' of a group 1312' may be formed as a**

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protruding cone-like structure or sharpened cylinder (see FIG. 54). Features 1314, 1314' (particles) may be mixed in one group, may be placed with any desired spacing, and/or may be arranged in any desired number of rows or columns. In addition, a feature at each code position may be present or absent as part of the corresponding code. The group of features may be disposed at any position relative to the perimeter of a particle imprinted by the die, such as in the center or closer to an edge.

[0456] **FIG. 55** shows a system 1320 for **forming imprinted particles**, which generally is comprises a precursor-material positioning mechanism 1322, an **imprinting mechanism 1324**, and a cutting mechanism 1326.

Fig. 55



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Fig. 52

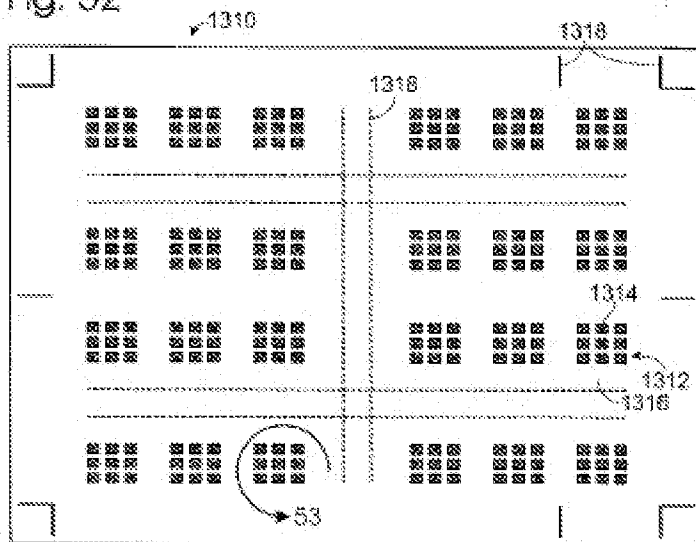


Fig. 53

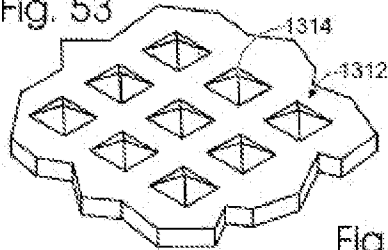
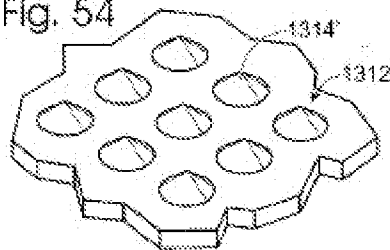


Fig. 54



B- Appellant contends in pages 13-14 of the appeal brief that Ravkin et al. do not disclose or suggest producing a stamp by attaching particles to a surface of an auxiliary body.

This is not found persuasive because Appellant fails to disclose how the particles are attached to the stamp in the Instant Specification, wherein attaching means to join, fasten, or connect (see Collins English Dictionary). Hence, “attaching” can be interpreted as particles

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formed on the stamp either a unitary body or two pieces joined together with any known method such as depositing or crystal growth.

Ravkin et al. clearly teaches producing a stamp (1324/1310/1314/1320, see fig. 55, paragraph# 456, 453-454) by attaching particles (1314/1312, see paragraph# 453-454, figs. 55, 53-54, 52, also see figure 60, paragraphs 533-536, 431, 574) to a surface of an auxiliary body (1310/1340, see figures 55, 52, paragraph# 453-456, also see figure 60, paragraphs 533-536, 431, 574); and using the attached particles (1314/1312, figure 52, 53, 55, see paragraph# 431, 453-456, 458) to imprint an imprintable material (1330), thereby producing the plurality of bodies (dotted grooves formed in 1330 under and corresponding to particle 1314 in fig. 55, and 1344 formed in the 1330 in fig. 55) the each body having at least a surface portion bearing a direct imprint of the particle pattern (1314) in the stamp (1324/1310/1314/1320, figures 55, see paragraph# 456-460) as claimed in claim 1.

[0431] Surface relief on a die or mold may be formed by selective removal, **deposition**, or other restructuring of die- or mold-forming materials. Thus, features may be formed by soft lithography, photolithography followed by chemical etching, laser etching, **crystal growth, and/or so on.**

[0458] Imprinting mechanism 1324 supports, positions, and heats die 1310. Die 1310 is **attached** to a die holder 1336 so that the die surface is generally perpendicular to the z-axis and aligned with support 1332.

[0574] A particle code may be formed from chromic materials incorporated in and/or **attached** to a particle. The chromic materials may be introduced into the particle during particle formation. Alternatively, the chromic materials may be **attached** to the particle after particle formation, for example, as thin films or coatings. In either case, specific chromic materials may be present in spatially restricted portions of the particle to form a spatial code, such as a spatial color code. Furthermore, the code may not be detectable until revealed by the appropriate environmental change. Alternatively, the code may be detectable initially and then temporarily or permanently lightened or removed with the appropriate environmental change.

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C- Appellant contends in page 14 of the appeal brief that Ravkin teaches imprinted on as opposed to the present system wherein it is the particles that are used to imprint an imprintable material.

This is not found persuasive because Ravkin et al. clearly teaches using the attached particles (1314/1312, figure 52, 53, 55, see paragraph# 453-456, also see figure 60, paragraphs 533-536, 431, 574) to imprint an imprintable material (1330), thereby producing the plurality of bodies (dotted grooves formed in 1330 under and corresponding to particle 1314 in fig. 55, and 1344 formed in the 1330 in fig. 55) the each body having at least a surface portion bearing a direct imprint of the particle pattern (1314) in the stamp (1324/1310/1314/1320, figures 55, see paragraph# 456-460) as claimed in claim 1.

D- Appellant contends in pages 12-13 that Ravkin et al. shows use of a die to impart surface relief structures on a particle as appreciated by anyone of ordinary skill in the art, however, it is respectfully submitted that Ravkin et al. makes clear that the die of Ravkin et al. is produced in a way that is ordinary to those skilled in the art and that is completely different than recited in the claims of the present system. Ravkin explains that (emphasis added) "[s]urface relief on a die or mold may be formed by selective removal, deposition, or other restructuring of die- or mold-forming materials. Thus, features [on the die] may be formed by soft lithography, photolithography followed by chemical etching, laser etching, crystal growth, and/or so on." (See, Ravkin, paragraph [0431] .)"

This is not found persuasive because Appellant's interpretation of Ravkin et al. is not seen in the claimed invention. Appellant fails to disclose how the particles are attached to the stamp in the Instant Specification. Hence, "attaching" can be interpret as particles formed on the

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stamp either a unitary body or two pieces join together with any known method such as depositing or crystal growth (see paragraph# 431 of Ravkin et al.).

Ravkin et al. teaches surface relief on a die formed by deposition/crystal growth wherein the process of deposition/crystal growth means attaching the surface relief on a die (see paragraph# 431, 458, figures 52-55, also see figure. 60, paragraphs 533-536, 574).

[0431] Surface relief on a die or mold may be formed by selective removal, deposition, or other restructuring of die- or mold-forming materials. Thus, features may be formed by soft lithography, photolithography followed by chemical etching, laser etching, crystal growth, and/or so on.

[0458] Imprinting mechanism 1324 supports, positions, and heats die 1310. Die 1310 is **attached** to a die holder 1336 so that the die surface is generally perpendicular to the z-axis and aligned with support 1332.

[0574] A particle code may be formed from chromic materials incorporated in and/or **attached** to a particle. The chromic materials may be introduced into the particle during particle formation. Alternatively, the chromic materials may be **attached** to the particle after particle formation, for example, as thin films or coatings. In either case, specific chromic materials may be present in spatially restricted portions of the particle to form a spatial code, such as a spatial color code. Furthermore, the code may not be detectable until revealed by the appropriate environmental change. Alternatively, the code may be detectable initially and then temporarily or permanently lightened or removed with the appropriate environmental change.

E- Appellant contends in page 14 of the appeal brief that Ravkin et al. in "FIGS. 53 and 54 show magnified views of exemplary die features" (see, Ravkin et al., paragraph [0454]), these features are formed simply by standard micromachining processes. Accordingly, while "FIG. 55 shows a system 1320 for forming imprinted particles" (see, Ravkin, paragraph [0456]) as cited in the Final Office Action, it is the particles that are imprinted by the die as opposed to the present system, wherein a stamp is produced by attaching particles to a surface

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This is not found persuasive because Ravkin et al. clearly teaches stamp is producing by using producing a stamp (1324/1310/1314/1320, see fig. 55, paragraph# 456, 453-454) by attaching particles (1314/1312, see paragraph# 453-454, figs. 55, 53-54, 52, also see figure 60, paragraphs 533-536, 431, 574) to a surface of an auxiliary body (1310/1340, see figures 55, 52, paragraph# 453-456); and using the attached particles (1314/1312, figure 52, 53, 55, see paragraph# 453-456) to imprint an imprintable material (1330), thereby producing the plurality of bodies (dotted grooves formed in 1330 under and corresponding to particle 1314 in fig. 55, and 1344 formed in the 1330 in fig. 55) the each body having at least a surface portion bearing a direct imprint of the particle pattern (1314) in the stamp (1324/1310/1314/1320, figures 55, see paragraph# 456-460).

F- Appellant contends in page 16 of the appeal brief that the particles of Ravkin et al. are not utilized to imprint an imprintable body and therefore the particles of Ravkin et al. have nothing to do with the presently pending claims. Ravkin et al. does not teach, disclose or suggest, a method that amongst other patentable elements, comprises "producing a stamp by attaching particles to a surface of an auxiliary body in a pattern; and using the attached particles on the stamp to imprint an imprintable material, thereby producing the plurality of bodies, the each body having at least a surface portion bearing an a direct imprint of the particle pattern in the stamp" as recited in claim 1. Each of Ono, Abe and Neuhaus are introduced for allegedly showing elements of the dependent claims and as such, do nothing to cure the deficiencies in Ravkin.

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This is not found persuasive because Ravkin et al. clearly teaches in figures 52-61, para. 453-456 and figure. 60, paragraphs 533-536:

producing a stamp (1324/1310/1314/1320, see fig. 55, paragraph# 456, 453-454) by attaching particles (1314/1312, see paragraph# 453-454, figs. 55, 53-54, 52, and also see figure. 60, paragraphs 533-536) to a surface of an auxiliary body (1310/1340, see figures 55, 52, paragraph# 453-456); and using the attached particles (1314/1312, figure 52, 53, 55, see paragraph# 453-457) to imprint an imprintable material (1330), thereby producing the plurality of bodies (dotted grooves formed in 1330 under and corresponding to particle 1314 in fig. 55, and 1344 formed in the 1330 in fig. 55) the each body having at least a surface portion bearing a direct imprint of the particle pattern (1314) in the stamp (1324/1310/1314/1320, figures 55, see paragraph# 456-460) as claimed in claim 1.

G- Appellant contends that dependents claims 2-12 are allowable. This is not found persuasive because Appellant fails to specifically point out the differences between the claimed invention and the cited references.

Since, Ravkin et al. clearly teaches all the limitations as claimed in the independent claims 1 as described above, hence, dependent claims 2-4, 6, 8-10 and 12 are not patentable over Ravkin in view of Ono.

Since, Ravkin et al. clearly teaches all the limitations as claimed in the independent claims 1 as described above, hence, dependent claims 5 and 7 are not patentable over Ravkin in view of Ono and further in view of Abe.

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Since, Ravkin et al. clearly teaches all the limitations as claimed in the independent claims 1 as described above, hence, dependent claim 11 is not patentable over Ravkin in view of Neuhaus.

From the above Ravkin et al. clearly teaches a method of producing a stamp by attaching particles to a surface of an auxiliary body in a pattern; and using the attached particles on the stamp to imprint an imprintable material, thereby producing the plurality of bodies, the each body having at least a surface portion bearing an a direct imprint of the particle pattern in the stamp. Hence the rejection of claim 1 meets the burden under 35 U.S.C 102 (b) as anticipated by Ravkin et al..

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Thanh T. Nguyen/

Primary Examiner, Art Unit 2893

Conferees:

Davienne Monbleau

/Davienne Monbleau/
Supervisory Patent Examiner, Art Unit 2893

/Michael J Sherry/
Quality Assurance Specialist, TC 2800